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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/734,432	12/11/2000	George I. Davida		3562

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EXAMINER

BALI, VIKKRAM

ART UNIT	PAPER NUMBER
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2624

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/27/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/734,432

Applicant(s)

DAVIDA ET AL.

Examiner

Vikram Bali

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

In response to the amendment filled on 10/19/2006, all the amendment to the claims have been entered and the action follows:

Request for Information Under 37 CFR 1.105

1. The Examiner requests information under 37 CFR 1.105 regarding the portions of the disclosure that provide the written description and enablement support for the amended limitations in claim 1, lines 3-4 and 6-11.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4, 12-15, and 16-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Davida et al. ("On Enabling Secure Applications Through Off-line Biometric").

Regarding claim 1, Davida et al. ("Davida") discloses a body part input means for generating an information signal impressed with characteristics of a body part (Sect. 6 and 6.1), wherein the information signal includes one or more generation errors based on variances of the body part (Sect. 1; Sect. 3-3.2.1); an index generation means for dynamically generating one or more indices from the information signal, wherein the one or more indices are generated by processing the information signal (Sect. 5.1, para 3) by selecting only a portion of the information signal such that generation errors based

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on variances of the body part are determined to be within a predetermined error level within the selected portion of the information signal and generating the indices using only the selected portion of the information signal (Sect. 1; Sect. 3-3.2.1; Sect. 5.1; Sect. 6.1), and a linking means to link at least one of the indices to an identity for the body part (Sect. 5.1; Sect. 2.2).

Regarding claim 2, Davida discloses an index as a function of a subset of data of the information signal (Sect. 5.1).

Regarding claim 3, Davida discloses generating indices from different partial information from said selected portion of the information signal or transformation of said selected portion of the information signal (Sect. 3-3.2.1; Sect. 5.1; Sect. 6.1).

Regarding claim 4, Davida discloses the information signal impressed with characteristics of a body part including a human eye (Sect. 6.1).

Regarding claim 12, Davida discloses applying error correcting codes to reduce errors in the information signal before dynamically generating one or more indices from the information signal (Sect. 3.2).

Regarding claim 13, Davida discloses the error correcting codes include computing roots of a polynomial over a Galois Field (Sect. 3.2, Algebraic decoding).

Regarding claim 14, Davida discloses dynamically generating one or more indices from the information signal by generating the one or more indices as hash values using a predetermined hashing function on the information signal (Sect. 5.1).

Regarding claim 15, Davida discloses the indices generated from the information signal cannot be used to reveal information about the characteristics of the body part included in the information signal (Sect. 5.1, page 155).

Regarding claim 16, Davida discloses generating an information signal impressed with characteristics of a body part (Sect. 6 and 6.1), wherein the information signal includes one or more generation errors based on variances of the body part (Sect. 1; Sect. 3-3.2.1); selecting a portion of the information signal such that generation errors based on variances of the body part are determined to be within a predetermined error level within the selected portion of the information signal and generating the indices using only the selected portion of the information signal (Sect. 1; Sect. 3-3.2.1; Sect. 5.1; Sect. 6.1), processing the selected portion of the information signal to remove errors thereby creating a processed information signal (Sect. 3.2; Sect. 5.1), dynamically generating one or more indices from the processed information signal (Sect. 5.1), wherein one or more indices generated from the information signal cannot be used to reveal information about the body part included in the processed information signal (Sect. 5.1, page 155), obtaining a biometric template using one or more generated indices, wherein the biometric template includes an identity for the body part, and verifying the identity for the body part in the biometric template using the one or more generated indices (Sect. 5.1).

Regarding claims 17-20, the arguments analogous to those presented above for claims 13-15 and 4 are applicable to claims 17-20, respectively.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5, 6, and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davida et al. ("On Enabling Secure Applications Through Off-line Biometric").

Regarding claim 5, Davida discloses a body part input means for generating an information signal impressed with characteristics of a body part (Sect. 6 and 6.1), wherein the information signal includes one or more generation errors based on variances of the body part (Sect. 1; Sect. 3-3.2.1); an index generation means for dynamically generating one or more indices from the information signal, wherein the one or more indices are generated by processing the information signal (Sect. 5.1, para 3) by selecting only a portion of the information signal such that generation errors based on variances of the body part are determined to be within a predetermined error level within the selected portion of the information signal and generating the indices using only the selected portion of the information signal (Sect. 1; Sect. 3-3.2.1; Sect. 5.1; Sect. 6.1), an information hiding means for hiding at least one index to obtain transformed biometric templates (Sect. 3.1; Sect. 5.1), and a verification means for verifying transformed biometric template with template linked by associated index (Sect. 5.1). Davida does not expressly disclose a transmission means for transmitting at least one transformed biometric template and index pair. However, Davida discloses that the

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off-line system is also applicable to on-line systems where information is stored in an on-line database instead of on storage cards (Sect. 2.2, NOTE), and would thereby entail a transmission means. Therefore, it would have been obvious to one of ordinary skill in the art to have modified the system disclosed by Davida to expressly include a transmission means because it is a well-known methodology routinely utilized in the art and enables the reduction of security requirements imposed on the database, where privacy restrictions on the information exist (Sect. 2.2, NOTE).

Regarding claim 6, Davida discloses the information signal is generated from multiple readings of the body part (Sect. 5.1; Sect. 6.1).

Regarding claim 8, Davida discloses including a hamming weight test (Page 149, col. 2; Sect. 6.1).

Regarding claim 9, Davida discloses validation for authorization (Sect. 1; Sect. 5.1).

Regarding claim 10, the arguments analogous to those presented above for claim 5 are applicable to claim 10. Note, the on-line system entails transmission means to accept points.

Regarding claim 11, Davida discloses the biometric template including at least one index composed with the information signal (Sect. 5.1).

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Davida et al. ("On Enabling Secure Applications Through Off-line Biometric Identification") as

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applied to claim 5 above, and further in view of Canetti ("Towards Realizing Random Oracles: Hash Functions that Hide all Partial Information").

Regarding claim 7, Davida discloses using a hash function as an information hiding means (Sect. 3.1). Davida does not appear to recognize using exclusive-or for signal transformation. However, Canetti teaches that it is known to use a hash function including exclusive-or for signal transformation (Page 465, para. 3). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the hash function disclosed by Davida to include using exclusive-or, as taught by Canetti, because it allows hiding all partial information of the signal (Abstract, lines 16-18) to protect a user's biometric template.

Response to Arguments

7. Applicant's arguments filed 10/19/2006 have been fully considered but they are not persuasive. Applicant argues that all the elements are not considered in rejecting the claims. Examiner disagrees with this assertion of the applicant and would like to point his or her attention to the rejection of the claims above. Therefore, all the rejections to the claims have been maintained.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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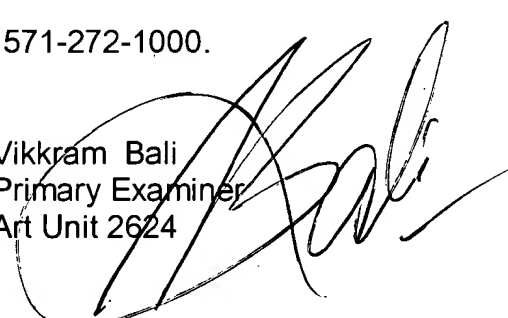
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vikkram Bali whose telephone number is 571.272.7415. The examiner can normally be reached on 7:00 AM - 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on 571.272.7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Vikkram Bali
Primary Examiner
Art Unit 2624



vb
December 19, 2006